RESPONSE TO PUBLIC COMMENTS
Erving POTW #1 Wastewater Treatment Plant Permit
National Pollutant Discharge Elimination System (NPDES), No. MA0101516

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) are issuing a final National Pollutant Discharge Elimination System (NPDES) permit for POTW #1 in the Village of Millers Falls, in Erving, Massachusetts. The Final Permit authorizes the Town of Erving to discharge wastewater to the Millers River in accordance with the requirements of the Federal Clean Water Act (CWA), 33 U.S.C. §§ 1251 *et. seq.*, and the Massachusetts Clean Waters Act, M.G.L. Ch. 21, §26-53.

The Draft Permit public comment period began August 12, 2008, and ended on September 10, 2008. The following sources submitted comments:

- Andrea F. Donlon, River Steward, Connecticut River Watershed Council, September 9, 2008 Letter
- Arthur Pace, Environmental Supervisor, Town of Erving, September 10, 2008 Letter

The comment letters received by EPA are part of the administrative record. To obtain a copy of these comments and/or the Final Permit, please write or call Doug Corb, EPA Massachusetts Municipal NPDES Permits Program (CMP), 1 Congress Street, Suite 1100, Boston, MA 02114-2023; telephone: (617) 918-1565.

This document presents EPA's responses to public comments on the Draft Permit, in accordance with the provisions of 40 C.F.R. 124.17. This document also describes any changes in the Final Permit that have been made as a result of those comments. A summary of the changes made in the Final Permit is listed below.

- The correct average monthly total residual chlorine limit of 0.34 mg/l and the maximum daily limit of 0.59 mg/l, stated in the fact sheet appear in the final permit, replacing the mistyped 1.0 mg/l limits in the draft permit.

- The permittee must complete an evaluation of alternative methods to optimize removal of nitrogen by July 1, 2010. Due to a typographical error, the Draft Permit included a date of July 1, 2020. The correct date of July 1, 2010 is in the Final Permit.

- The Draft Permit has a submission date of February 1, 2010 for the report summarizing activities related to optimizing nitrogen removal efficiencies. The submission date will be extended to July 1, 2010 as requested.

Andrea F. Donlon, M.S., River Steward, Connecticut River Watershed Council (CRWC).

All three facilities discharge to the Millers River, one of the major tributaries to the Connecticut River. CRWC is particularly interested in improving water quality in the Connecticut River watershed so that its rivers can support existing primary and secondary contact uses, even during wet weather. Our comments are below.

Comment #1: The protection of existing uses is required under 40 CFR 131.12(a)(1). Below is our understanding of existing uses on the Millers River in the vicinity of the outfalls.

- Between Erving Center and Millers Falls, the Millers River is occasionally used by skilled whitewater paddlers who are willing to brave rough conditions and the occasional broken dam and scattered mill remnants. In lower flow conditions, this section of river is also used by fly fishermen.

- Downstream, at the confluence of the Millers and Connecticut Rivers, there is a sandy beach that is frequently used for swimming. The Connecticut River at this point is heavily used for boating and paddling.

Response: EPA recognizes that boating and primary contact recreation in and on the water are existing uses for this segment of the Millers River. The Final Permit has new *E. coli* bacteria limits which EPA has found to be a better indicator of the presence of human disease causing pathogens. The MassDEP has issued a CleanWater Act Section 401 certification that the NPDES permit as written will be protective of all Massachusetts water quality standards for both designated and existing uses.

Comment #2: The proposed maximum daily limit for *E. coli* bacteria in all three permits is 409 cfu/100 ml. This limit is not consistent with the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, which states that no single sample shall exceed 235 colonies/100 mL. Nothing in the Fact Sheet explains the rationale for the maximum of 409 colonies/100mL.

Response: The MassDEP revised its surface water criteria for bacteria in the revisions to the Massachusetts Surface Water Quality Standards (SWQS) 314 CMR 4.00 (December 29, 2006). EPA approved the changes to the bacteria criteria on September 19, 2007.

For fresh waters, the SWQS criteria were revised from fecal coliform bacteria to either enterococci (for bathing beaches) or *E. coli*. The updated SWQS changes the criteria from the previous standard which was, for Class B waters, a monthly geometric mean for fecal coliform bacteria of 200 cfu/100 ml and no greater than 10% of the samples in a month were to exceed 400 cfu/100 ml. These criteria were based upon qualitative information and best professional judgment (Isaac, 2007).

The new criteria for enterococci are a monthly geometric mean of 33 cfu/100 ml and single sample maximum (SSM) of 61 cfu/100ml. These are designed for bathing beach areas. The new criteria for *E. coli* (used by MassDEP for non-beach inland waters) are 126 cfu/100 ml geometric mean and a SSM of 235 cfu/100 ml. These criteria are based upon statistical distribution (Isaac, 2007).

The bacteria criteria are based on the EPA criteria originally published in 1986 and more recently included in the EPA bacteria ruling found in the Federal Register (November 16, 2004: "Water Quality Standards for Coastal and Great Lakes Recreation Waters: Final Rule"). The *E. coli* SSM values are based on 4 classes of exposure with the upper 75% confidence level being the most stringent. MassDEP views the use of the 90% upper confidence level (lightly used full body contact recreation) of 409 cfu/100 ml as appropriate for setting effluent bacteria levels in NPDES permits. MassDEP views this as in keeping with how the fecal coliform criteria were used with the 10% exceedance allowance. EPA explained that if NPDES permits limits are set at the 75% upper confidence level for SSM it would, in fact, be more stringent than intended by the criteria and "could impart a level of protection much more stringent than intended by the 1986 bacteria criteria document." (EPA-823-F-06-013, September 2006, Water Quality Standards for Coastal Recreation Waters: Using Single Sample Maximum Values in State Water Quality Standards).

The bacteria limits for this permit are thus set using the water quality standard based geometric mean value in the SWQS and setting the daily maximum at the 90% upper confidence level. The permit is more stringent in that it does not allow 10% of the effluent samples to be above 409 cfu/100 ml which is how the surface water criteria are applied in the water quality standards.

Comment #3: The Fact sheet on page 11 says that EPA is keeping the same chlorine limits as the existing permit, but the draft permit itself does not reflect that there is an upshift from average monthly of 0.34 mg/l and max daily of 0.59 mg/l to 1.0 mg/L for both. We suggest maintaining the existing limits rather than changing them to 1.0 mg/l.

Response: The fact sheet correctly states that the average monthly total residual chlorine limit is 0.34 mg/L and maximum daily limit is 0.59 mg/l. The 1.0 mg/l limits in the Draft Permit are typographical errors that are corrected in the Final Permit.

Comment #4: We would like to see the pH limit for this facility in line with the other Erving facilities, within 6.5 to 8.3, and in keeping with the Massachusetts Water Quality Standards for Class B waters.

Response: The pH standard is for the receiving water and not necessarily the effluent, however, standard practice for POTW permits has been to require that the pH match the receiving water classification. In some instances, EPA has allowed a pH range of 6.0-8.3 SU where there is sufficient dilution, which is commensurate with the EPA secondary treatment requirement range for pH, 6.0 - 9.0 SU. See 40 C.F.R. §133.102.

Comment #5: Records show that in 2005, the facility had several P violations, but the numbers have since gotten under control. Still, this facility commonly hits the max of 1 mg/l. This is a concern because the outfall is so close to the Connecticut River and the downstream impoundment called Barton Cove, which is choked with weeds.

Response: The permittee is currently replacing the existing headworks with fine screen and vortex grit removal, rehabilitating and bringing the primary clarifiers back online, and changing the mechanical aeration to a fine bubble system. These changes are likely to significantly change the performance of the treatment plant. EPA will be monitoring the progress of the POTW's total phosphorus removal.

Comment #6: The design flow for this plant is much higher than what is currently being discharged because the International Paper mill is defunct and no longer contributing. We don't know what the long or short term prospects are for re-use of the International Paper building. Currently, the BOD and TSS limits are based on the 1.02 mgd design flow (according to page 9 of the Fact Sheet). This gives the permittee no incentive to keep their loading numbers down, proportional to the amount of waste that they are currently processing. Given that the NPDES program is supposed to result in pollution elimination, can some kind of compromise be reached to bring the limits closer to their operating conditions for the past eight years?

Response: When the International Paper mill shut down, it left an under loaded POTW. The ongoing changes and upgrades to the POTW reflect the loss of the mills influent contribution. The design flow of the POTW remains at 1.02 mgd. Federal Regulations found at 40 CFR §122.45(b)(1) require that POTW limits be based on design flow. The design flow is found in the March 22, 2007 NPDES Application Form 2A, Section A6.

Comment #7: Part E of the draft permit (page 11) gives the permittee until July 1, 2020 to complete an evaluation of alternative methods to optimize removal of nitrogen. This is 12 years from now. The fact sheet gives the date of July 1, 2010. We recommend that the permit be amended to incorporate the earlier deadline.

Response: The second deadline is a typographical error. The correct date of July 1, 2010 is in the Final Permit.

Comment #8: We are glad to see the plant is planning to convert to ultraviolet disinfection, since this facility has frequent chlorine violations.

Response: EPA and MassDEP concur.

Comment #9: Contrary to the Fact Sheet's assertion that the whole effluent toxicity (WET) testing has been fine (page 12), the facility failed twice since the issuance of the last permit, in July 2005 and October 2004, according to the EPA Envirofacts database. Has this been resolved?

Response: WET test results since July of 2005 have all been 100% which indicate the problem has been resolved.

Comment #10: Recent WET test results were not included in the data provided for this permit. [I could not find this facility's records in EPA's new ECHO system, even though the other two Erving treatment plants were there.] We recommend adding a chronic WET test of 3% (inverse of the dilution factor) for this facility because of acute test failures and the presence of other NPDES discharges in this area.

Response: The dilution water for the WET tests for Erving POTW #1 is drawn from the Millers River just above Outfall 001 and below the other treatment plants on the Millers River. The acute WET tests measure the cumulative toxicity of all the discharges above and including the Erving #1 POTW discharge.

The dilution factor for Erving POTW #1 is 32. EPA and MassDEP find that the LC_{50} of ≥100% to be adequately responsive and protective of receiving waters with greater than 20:1 dilution (calculated at critical low river flow and treatment plant design flow).

Comment #11: Flow data provided with the Fact Sheet indicate a huge variation in the 12-month monthly average flow from this facility, ranging from 0.162 MGD (July 2006) to 0.707 MGD (January 2007), The Fact Sheet on page 17 indicates that I/I is significant in this system, causing plant flows to almost double. While the permit requires the Town to have an ongoing I/I program, it is important that EPA make sure this program leads to tangible results in the near future, as it is not clear what progress has been made since the last issuance of the permit.

Response: The adequacy of I/I plans and the implementation of those plans are monitored in an ongoing process by EPA's Water Technical Unit and the MassDEP. Where needed, EPA and or the MassDEP may take action consistent with the Clean Water Act.

Arthur Pace, Environmental Supervisor, Town of Erving

On July 17, 2008 [the town made]a request for a change in the Special Condition regarding reporting on alternative methods of operating the existing WWTP, to optimize the removal of nitrogen and asked that the effective date to be extended six months after completion of POTW #1 upgrade.

Comment #1: On page 11 of 13, July 1, 2020 is noted to be a typo error with the corrected date of July 1, 2010 to be the actual date to submit our report. On page 3 of attachment B the correct date is noted.

Response: Please see the response to CRWC Comment #7.

Comment #2: We would also ask that page 4 of attachment B regarding the permittee submitting a report summarizing activities related to optimizing nitrogen removal efficiencies, Part El, by February 1, 2010. We would request that this date be changed to six months after the completion of the upgrade. July 1, 2010 would provide additional time needed to work out any problems that may arise. This would also provide the opportunity to collect data with the change in process, mechanical aeration to diffused air, cyclic aeration, Ultraviolet disinfection, etc.

Response: EPA and MassDEP both agree that it is reasonable to first get the upgrades to the POTW operational and properly functioning and then to look at optimizing the system for nitrogen removal. The submission date will be extended from February 1, 2010 to July 1, 2010 as requested.